

Docket Number: 081468-0306527  
Client Reference: P-0382.010-US

*IPR*  
PATENT APPLICATION

RECEIVED  
JULY 31 2005  
U.S. PATENT AND TRADEMARK OFFICE  
IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In Re the Application of

ARNO JAN BLEEKER

Group Art Unit: 2861 2851

Application No.: 10/715,116

Examiner: Unassigned *Fulmer*

Filed: November 18, 2003

Confirmation No.: 3978

For: LITHOGRAPHIC APPARATUS AND DEVICE MANUFACTURING METHOD

February 1, 2005

INFORMATION DISCLOSURE STATEMENT

Commissioner for Patents  
P. O. Box 1450  
Alexandria, VA 22313-1450

Sir:

Pursuant to 37 C.F.R. 1.56, the attention of the Patent and Trademark Office is hereby directed to the following U.S. patent application(s):

Examiner's Initials	First Inventor	Application No.	Filing Date	Enclosed
<i>RJ</i>	STREEFKERK et al. (081468-0309796)	10/850,451	05/21/2004	<input checked="" type="checkbox"/> Specification <input checked="" type="checkbox"/> Drawings <input checked="" type="checkbox"/> Other: stamped receipt card
<i>RJ</i>	MULKENS (081468-0310380)	10/890,389	07/14/2004	<input checked="" type="checkbox"/> Specification <input checked="" type="checkbox"/> Drawings <input checked="" type="checkbox"/> Other: stamped receipt card
<i>RJ</i>	STREEFKERK et al. (081468-0309421)	10/844,575	05/13/2004	<input checked="" type="checkbox"/> Specification <input checked="" type="checkbox"/> Drawings <input checked="" type="checkbox"/> Other: stamped receipt card
<i>RJ</i>	SUWA et al. (Reissue Application of U.S. Patent No. 6,191,429 B1)	10/367,910	02/19/2003	<input checked="" type="checkbox"/> Specification <input checked="" type="checkbox"/> Drawings <input type="checkbox"/> Other: stamped receipt card

\*The Examiner's initials adjacent a citation indicates he/she has considered the cited application relative to the subject application.

It is respectfully requested that these applications and the art cited therein during examination be expressly considered during the prosecution of this application and be made of record in this application. The identification of the above U.S. patent applications is not to be construed as a waiver of secrecy as to those applications now or upon issuance of the present application as a patent.

FORM PTO-1449 (modified)  
 To: U.S. Department of Commerce  
 (PW FORM PAT-1449)  
 Patent and Trademark Office



Atty. Dkt. No.	M#	Client Ref.
	0306527	P-0382.010-US

Applicant: Arno J. BLEEKER
Appln. No.: 10/715,116
Filing Date: November 18, 2003

Date: February 1, 2005

Page **1** of **2**

Examiner: Unknown Group Art Unit: 2881 2851

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BR	6,236,634 B1	05/2001	LEE et al.	369	112	
CR	2002/0020821 A1	02/2002	VAN SANTEN et al.	250	492	
DR	2004/0075895 A1	04/2004	LIN	359	380	
ER	2004/0109237 A1	06/2004	EPPELLE et al.			
FR	2004/0119954	06/2004	KAWASHIMA et al.	355	30	
GR	2004/0125351	07/2004	KRAUTSCHIK	355	53	
HR						
IR						
JR						

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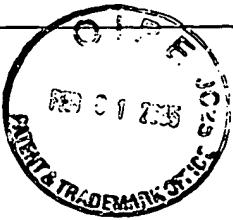
	Document Number	Date MM/YYYY	Country	Inventor Name	English Abstract		Translation Readily Available	
					Enclosed	No	Enclose	No
JP	JP 07-132262	05/1995	Japan	HIRAKAWA et al.		X		
LR	JP 58-202448	11/1983	Japan	KAWAMURA et al.		X		
MR	WO 2004/019128	03/2004	PCT	OMURA et al.		X		X
NR	WO 03/077037	09/2003	PCT	ROSTALSKI et al.		X		X
OR	WO 03/077036	09/2003	PCT	SCHUSTER		X		
PR	DD 206 607	02/1984	GERMANY	WESTPHAL et al.			X	
QR	DD 221 563	04/1985	GERMANY	PFORR et al.			X	
RR	JP 11-176727	07/1999	JAPAN	SHIRAISHI		X		
SR	JP 2000-058436	02/2000	JAPAN	FUJISHIMA et al.		X		

### OTHER (Including in this order Author, Title, Periodical Name, Date, Pertinent Pages, etc.)

TR	S. OWA et al., "Update on 193nm immersion exposure tool", Litho Forum, International SEMATECH, Los Angeles, January 27-29, 2004, Slide Nos. 1-51.	
UR	H. HATA, "The Development of Immersion Exposure Tools", Litho Forum, International SEMATECH, Los Angeles, January 27-29, 2004, Slide Nos. 1-22.	
VR	T. MATSUYAMA et al., "Nikon Projection Lens Update", SPIE Microlithography 2004, 5377-65, March, 2004.	
WR	"Depth-of-Focus Enhancement Using High Refractive Index Layer on the Imaging Layer", IBM Technical Disclosure Bulletin, Vol. 27, No. 11, April 1985, p. 6521.	
XR	A. SUZUKI, "Lithography Advances on Multiple Fronts", EEdesign, EE Times, January 5, 2004.	
YR	B. LIN, "The $k_3$ coefficient in nonparaxial $\lambda/NA$ scaling equations for resolution, depth of focus, and immersion lithography, J. Microlith., Microfab., Microsyst. 1(1):7-12 (2002).	
ZR		

Examiner <b>BS</b>	Date Considered: <b>3/8/05</b>
*EXAMINER: Initial if citation considered, whether or not citation is in conformance with MPEP § 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to Applicant.	

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**INFORMATION DISCLOSURE STATEMENT  
 BY APPLICANT**

Date: February 1, 2005

Page **2** Of **2**

Applicant: Arno J. BLEEKER

Appln. No.: 10/715,116

Filing Date: November 18, 2003

Examiner: Unknown Group Art Unit: 2881 Z85

Full ✓

**U.S. PATENT DOCUMENTS**

Examiner's Initials*	Document Number	Date MM/YYYY	Name (Family Name of First Inventor)	Class	Sub Class	Filing Date (if appropriate)
AAR						
BBR						

**FOREIGN PATENT DOCUMENTS**

	Document Number	Date MM/YYYY	Country	Inventor Name	English Abstract		Translation Readily Available	
					Enclosed	No	Enclose	No
PT	CCR WO 2004/053950 A1	06/2004	PCT	OWA		X		
PT	DDR WO 2004/053951 A1	06/2004	PCT	MAGOME et al.		X		
PT	EER WO 2004/053952 A1	06/2004	PCT	MAGOME et al.		X		
PT	FFR WO 2004/053953 A1	06/2004	PCT	NEI et al.		X		
PT	GGR WO 2004/053954 A1	06/2004	PCT	NEI et al.		X		
PT	HHR WO 2004/053955 A1	06/2004	PCT	HIRUKAWA et al.		X		
PT	IIR WO 2004/053956 A1	06/2004	PCT	NAGASAKA et al.		X		
PT	JJR WO 2004/053957 A1	06/2004	PCT	HIDAKA et al.		X		
PT	KKR WO 2004/053958 A1	06/2004	PCT	MIZUTANI et al.		X		
PT	LLR WO 2004/053959 A1	06/2004	PCT	SHIRAI		X		
PT	MMR WO 2004/053596 A2	06/2004	PCT	GRAUPNER		X		
PT	NNR WO 2004/055803 A1	07/2004	PCT	VAN SANTEN		X		X
PT	OOR WO 2004/057589 A1	07/2004	PCT	NEIJZEN et al.		X		X
PT	PPR WO 2004/057590 A1	07/2004	PCT	VAN SANTEN et al.		X		X
PT	QQR JP 2004-193252	07/2004	Japan	Not Available		X		
PT	RRR 0 605 103 A1	07/1994	EP	TAKAHASHI		X		X

**OTHER (Including in this order Author, Title, Periodical Name, Date, Pertinent Pages, etc.)**

SSR	Search Report for European Application No. 03257194.5, dated March 1, 2004.
TTR	
UUR	
VVR	
WWR	
XXR	
YYR	

Examiner

Date Considered: *3/8/05*

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PATENT APPLICATION

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

FEB 20 2004  
In Re the Application of  
Aarlo Jan BLEEKER  
Application No.: 10/715,116

Group Art Unit: 2851

Examiner: Unassigned F-11

Filed: November 18, 2003

Confirmation No.: Unassigned

For: Lithographic Apparatus and Device Manufacturing Method

INFORMATION DISCLOSURE STATEMENT

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Pursuant to 37 C.F.R. 1.56, the attention of the Patent and Trademark Office is hereby directed to the following U.S. patent application(s):

Examiner's Initials	First Inventor	Application No.	Filing Date	Enclosed
RJ	Joeri LOF et al.	10/705,805	11/12/2003	<input checked="" type="checkbox"/> Specification <input checked="" type="checkbox"/> Drawings <input checked="" type="checkbox"/> Other: stamped receipt card
RJ	Joeri LOF et al.	10/705,783	11/12/2003	<input checked="" type="checkbox"/> Specification <input checked="" type="checkbox"/> Drawings <input checked="" type="checkbox"/> Other: stamped receipt card
RJ	Helmar VAN SANTEN et al.	10/743,271	12/23/2003	<input checked="" type="checkbox"/> Specification <input checked="" type="checkbox"/> Drawings <input checked="" type="checkbox"/> Other: stamped receipt card
RJ	Johannes C.H. MULKENS et al.	10/743,266	12/23/2003	<input checked="" type="checkbox"/> Specification <input checked="" type="checkbox"/> Drawings <input checked="" type="checkbox"/> Other: stamped receipt card
RJ	Antonius T.A.M. DERKSEN et al.	10/705,785	11/12/2003	<input checked="" type="checkbox"/> Specification <input checked="" type="checkbox"/> Drawings <input checked="" type="checkbox"/> Other: stamped receipt card
RJ	Klaus SIMON et al.	10/724,402	12/01/2003	<input checked="" type="checkbox"/> Specification <input checked="" type="checkbox"/> Drawings <input checked="" type="checkbox"/> Other: stamped receipt card
RJ	Joeri LOF et al.	10/705,816	11/12/2003	<input checked="" type="checkbox"/> Specification <input checked="" type="checkbox"/> Drawings <input checked="" type="checkbox"/> Other: stamped receipt card
RJ	Bob STREEFKERK et al.	10/719,683	11/24/2003	<input checked="" type="checkbox"/> Specification <input checked="" type="checkbox"/> Drawings <input checked="" type="checkbox"/> Other: stamped receipt card
RJ	Joannes T. DESMIT et al.	10/705,804	11/12/2003	<input checked="" type="checkbox"/> Specification <input checked="" type="checkbox"/> Drawings <input checked="" type="checkbox"/> Other: stamped receipt card

\*The Examiner's initials adjacent a citation indicates he/she has considered the cited application relative to the subject application.

FORM PTO-1449 (modified) To: U.S. Department of Commerce (PW FORM PAT-1449) Patent and Trademark Office				Atty. Dkt. No.	M#	Client Ref.	
					081468 0306527	P-0382.010-US	
INFORMATION DISCLOSURE STATEMENT BY APPLICANT				Applicant: Arno Jan BLEEKER			
FEB 20 2004 U.S. PATENT & TRADEMARK OFFICE				Appn. No.: 10/715,116			
Date: February 20, 2004 1 of 1				Examiner: Unassigned		Group Art Unit: Unassigned	
U.S. PATENT DOCUMENTS							
Examiner's Initials*	Document Number	Date MM/YYYY	Name (Family Name of First Inventor)	Class	Sub Class	Filing Date (if appropriate)	
PA	AR 2004/0000627A1	01/01/2004	Karl-Heinz SCHUSTER				
PR	BR 6,600,547	07/29/2003	WATSON et al.				
PR	CR 2004/0021844 A1	02/05/2004	Yutaka SUENAGA				
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JR							
KR							
LR							
MR							
NR							
FOREIGN PATENT DOCUMENTS						English Abstract	Translation Readily Available
	Document Number	Date MM/YYYY	Country	Inventor Name		Enclosed	No
OR							
PR							
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SR							
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UR							
VR							
WR							
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PR	YR	H. Hogan, "New Semiconductor Lithography Makes a Splash", PHOTONICS SPECTRA, Photonics TechnologyWorld, October 2003 Edition, pgs. 1-3					
PR	ZR	S. Owa and N. Nagasaka, "Potential Performance and Feasibility of Immersion Lithography", NGL Workshop 2003, July 10, 2003, Slide Nos. 1-33.					
	AAR						
	BBR						
	CCR						
	DDR						
Examiner 			Date Considered: 3/8/05				
EXAMINER: Initial if citation considered, whether or not citation is in conformance with MPEP § 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to Applicant.							

Nov 18, 2003

FORM PTO-1449 (modified) To: U.S. Department of Commerce, (PW FORM PAT-1449) Patent and Trademark Office				Atty. Dkt. No.	M#	Client Ref.			
					306527	P-0382.010-US			
				Applicant: Amo J. BLEEKER					
				Appln. No.: Unknown					
				Filing Date: November 18, 2003					
				Examiner: Unknown	Group Art Unit: Unknown AS-9				
INFORMATION DISCLOSURE STATEMENT BY APPLICANT									
Date: November 18, 2003 Page 1 of 3				Feltur					
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Examiner's Initials*	Document Number	Date MM/YYYY	Name (Family Name of First Inventor)	Class	Sub Class	Filing Date (if appropriate)			
RJ	AR 3,573,975	04/1971	Dhaka et al.	117	212				
RJ	BR 3,648,587	03/1972	Stevens	95	44				
RJ	CR 4,346,164	08/1982	Tabarelli et al.	430	311				
RJ	DR 4,396,705	08/1983	Akeyama et al.	430	326				
RJ	ER 4,480,910	11/1984	Takanashi et al.	355	30				
RJ	FR 4,509,852	04/1985	Tabarelli et al.	355	30				
RJ	GR 5,040,020	08/1991	Rauschenbach et al.	355	53				
RJ	HR 5,121,256	06/1992	Corle et al.	359	664				
RJ	IR 5,610,683	03/1997	Takahashi	355	53				
RJ	JR 5,715,039	02/1998	Fukuda et al.	355	53				
RJ	KR 5,825,043	10/1998	Suwa	250	548				
RJ	LR 5,900,354	05/1999	Batchelder	430	395				
RJ	MR 6,191,429	02/2001	Suwa	250	548				
RJ	NR 6,560,032	05/2003	Hatano	359	656				
FOREIGN PATENT DOCUMENTS						English Abstract	Translation Readily Available		
	Document Number	Date MM/YYYY	Country	Inventor Name		Enclosed	No	Enclose	No
RJ	OR WO 99/49504	09/1999	PCT	Fukami et al.		X		X	
RJ	PR EP 0023231	02/1981	Europe	Tabarelli et al.		X			
RJ	QR EP 0418427	03/1991	Europe	Miyake		X		X	
RJ	RR EP 1039511	09/2000	Europe	Murakimi et al.		X		X	
RJ	SR DD 224448	07/1985	German	Hesse et al.			X		
RJ	TR DD 242880	02/1987	German	Kuch			X		
RJ	UR FR 2474708	07/1981	France	Letellier			X		
RJ	VR JP 62-065326	03/1987	Japan	Moriuchi		X			
RJ	WR JP 62-121417	06/1987	Japan	Nakazawa		X			
RJ	XR JP 63-157419	06/1988	Japan	Nakasaji		X			
OTHER (Including in this order Author, Title, Periodical Name, Date, Pertinent Pages, etc.)									
RJ	YR	EP Search Report for EP 02257938 dated September 25, 2003							
RJ	ZR	M. Switkes et al., "Immersion Lithography at 157 nm", MIT Lincoln Lab, Orlando 2001-1, December 17, 2001							
RJ	AAR	M. Switkes et al., "Immersion Lithography at 157 nm", J. Vac. Sci. Technol. B., Vol. 19, No. 6, November/December 2001, pp. 2353-2356							
RJ	BBR	M. Switkes et al., "Immersion Lithography: Optics for the 50 nm Node", 157 Anvers-1, September 4, 2002							
Examiner <i>RJ</i>			Date Considered: 3-8-05						
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				Appn. No.: Unknown		
				Filing Date: November 18, 2003		
Date: November 18, 2003		Page <b>2</b> of <b>3</b>	Examiner: Unknown		Group Art Unit: Unknown	

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PA	CCR	6,603,130	08/2003	Bisschops et al.	250	492.1	
PA	DDR	6,633,365	10/2003	Suenaga	355	53	
PA	EER	2002/0163629	11/2002	Switkes et al.	355	53	
PA	FFR	2003/0123040	07/2003	Almogy	355	69	
PA	GGR	2003/0174408	09/2003	Rostalski et al.	359	642	
	HHR						
	IIR						
	JJR						
	KKR						
	LLR						
	MMR						
	NNR						
	OOR						
	PPR						

FOREIGN PATENT DOCUMENTS

		Document Number	Date MM/YYYY	Country	Inventor Name	English Abstract		Translation Readily Available	
						Enclosed	No	Enclose	No
PA	QQR	JP 04-305915	10/1992	Japan	Ozeki et al.	X			
PA	RRR	JP 04-305917	10/1992	Japan	Ozeki et al.	X			
PA	SSR	JP 06-124873	05/1994	Japan	Takahashi	X		X	
PA	TTR	JP 07-220990	08/1995	Japan	Fukuda et al.	X			
PA	UUR	JP 10-228661	08/1998	Japan	Kurokawa	X			
PA	VVR	JP 10-255319	09/1998	Japan	Suenaga et al.	X			
PA	WWR	JP 10-303114	11/1998	Japan	Suwa	X		X	
PA	XXR	JP 10-340846	12/1998	Japan	Kudo	X		X	
PA	YYR	JP 2001-091849	04/2001	Japan	Aizaki et al.	X			
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PA	BBBR	B.J. Lin, "Proximity Printing Through Liquid", IBM Technical Disclosure Bulletin, Vol.20, No. 11B, April 1978, p. 4997			

Examiner *PA* Date Considered: *3/8/05*

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<b>U.S. PATENT DOCUMENTS</b>									
Examiner's Initials*	Document Number	Date MM/YYYY	Name (Family Name of First Inventor)			Class	Sub Class	Filing Date (if appropriate)	
CCC									
DDD									
EEE									
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	Document Number	Date MM/YYYY	Country	Inventor Name		Enclosed	No	Enclose	No
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HHH	B.J. Lin, "The Paths To Subhalf-Micrometer Optical Lithography", SPIE Vol. 922, Optical/Laser Microlithography (1988), pp. 256-269								
III	G.W.W. Stevens, "Reduction of Waste Resulting from Mask Defects", Solid State Technology, August 1978, Vol.21 008, pp. 68-72								
JJJ	S. Owa et al., "Immersion Lithography; its potential performance and issues", SPIE Microlithography 2003, 5040-186, February 27, 2003								
KKK	S. Owa et al., "Advantage and Feasibility of Immersion Lithography", Proc. SPIE 5040 (2003)								
LLL	Nikon Precision Europe GmbH, "Investor Relations – Nikon's Real Solutions", May 15, 2003								
MM	H. Kawata et al., "Optical Projection Lithography using Lenses with Numerical Apertures Greater than Unity", Microelectronic Engineering 9 (1989), pp. 31-36								
NNN	J.A. Hoffnagle et al., "Liquid Immersion Deep-Ultraviolet Interferometric Lithography", J. Vac. Sci. Technol. B., Vol. 17, No. 6, November/December 1999, pp. 3306-3309								
OOC	B.W. Smith et al., "Immersion Optical Lithography at 193nm", FUTURE FAB International, Vol. 15, July 11, 2003								
PPP	H. Kawata et al., "Fabrication of 0.2μm Fine Patterns Using Optical Projection Lithography with an Oil Immersion Lens", Jpn. J. Appl. Phys. Vol. 31 (1992), pp. 4174-4177								
QQQ	G. Owen et al., "1/8μm Optical Lithography", J. Vac. Sci. Technol. B., Vol. 10, No. 6, November/December 1992, pp. 3032-3036								
RRR									
SSS									
TTT									
UUU									
VVV									
WW									
XXX									
YYY									
Examiner <i>R. J. Bleeker</i>	Date Considered: 3/8/05								
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